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United States
Department of
Agriculture

Soil
Conservation
Service

Portland,
Oregon



Water Supply Outlook for Oregon as of MARCH 1, 1983

STATIONED IN
MARCH 1983
E. E. AND
M. J. J.



TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: FRESH POWDER SNOW ON ELEPHANT MOUNTAIN, NEAR THE WEST FORK OF HYALITE CREEK, IN MONTANA.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



★GPO 693-033

WATER SUPPLY OUTLOOK FOR OREGON

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued

March 1, 1983

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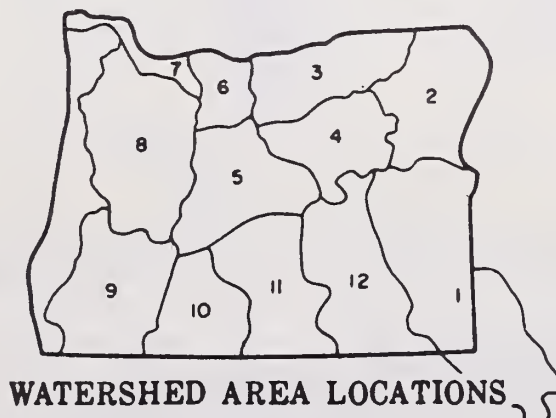
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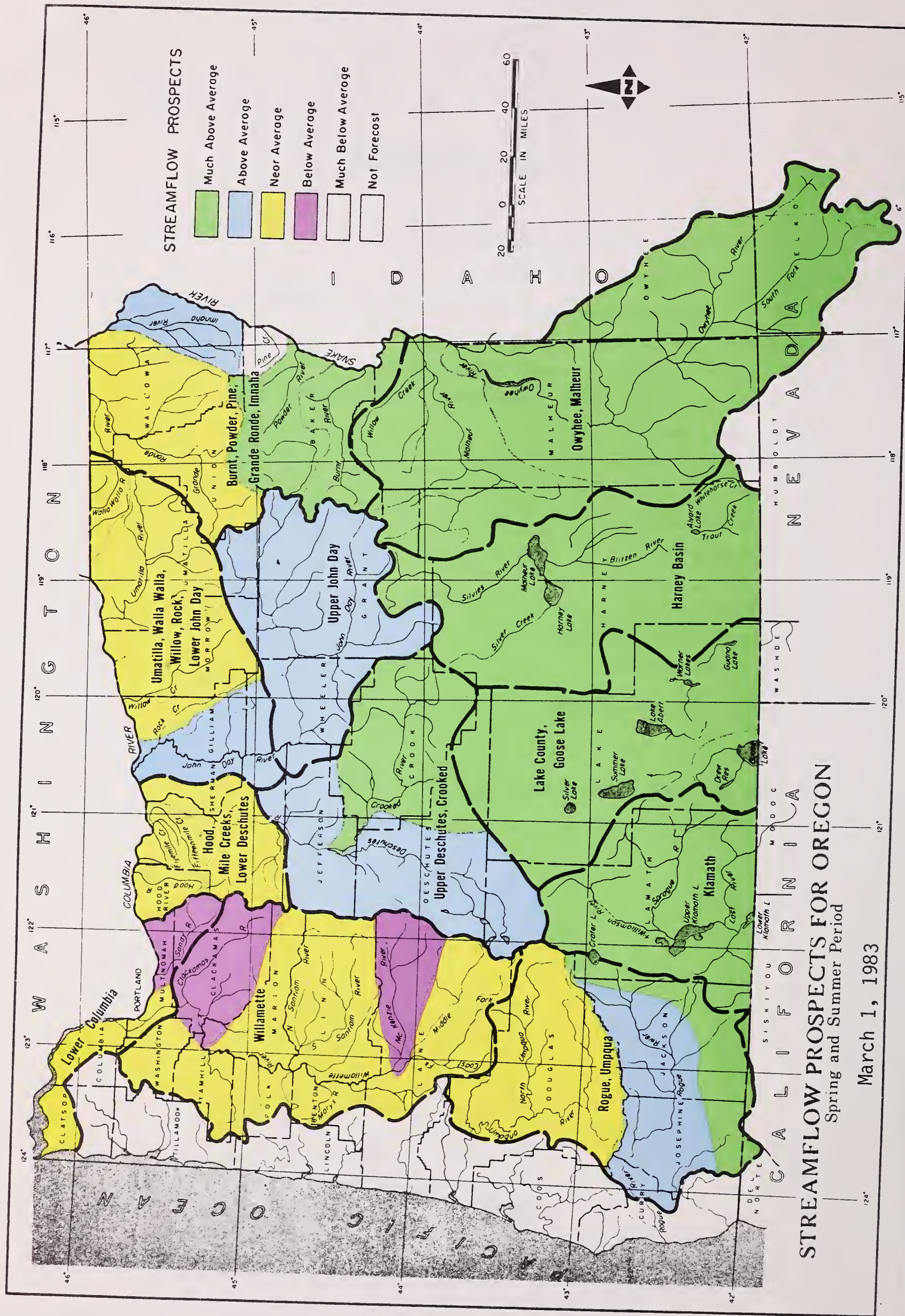
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WATERSHED AREA LOCATIONS



STREAMFLOW PROSPECTS FOR OREGON Spring and Summer Period

March 1, 1983

WATER SUPPLY OUTLOOK AND SUMMARY FOR OREGON

MARCH 1, 1983

* Water supplies are expected to be near average in the Umpqua and Willamette *
* Valleys and in the northern tier of counties along the Columbia. Above *
* average to much above average supplies should be available in the rest of *
* Oregon. The mountain snowpack is 1½ to 2 times average in southern Oregon. *
* The northern Cascades have a below average snowpack but this area has had *
* ample precipitation. Reservoir storage is excellent with most irrigation *
* reservoirs at above average March 1 levels. *
* *

SNOW COVER

The snowpack is extremely good over most of the state. A high freezing level the last several months has caused a deficient low and median elevation snowpack on the west side of the northern Cascades. However, the high elevation snow courses in this area have a near average snowpack. The southern half of the state has a much above average snowpack as does the Crooked River. The storm track which has been carrying storm after storm into California has impacted the southern part of Oregon also.

PRECIPITATION

February was a very wet month over the whole state. Precipitation amounts varied from 130% in northeast Oregon to 215% in the Rogue and Umpqua basins and 270% in Klamath County.

RESERVOIR STORAGE

Reservoir storage is excellent. Runoff during February was 1½ to 2 times normal and has helped make the situation very good for stored supplies. Twenty-seven major irrigation reservoirs are storing 2,650,700 acre feet. This is 120% of average and 82% of capacity.

STREAMFLOW

Volume forecasts have risen from last month because of much above average February precipitation. Forecasts of representative Oregon streams are as follows:

-continued on next page-

<u>STREAM</u>	<u>PERIOD</u>	<u>% OF AVERAGE</u>
Owyhee net Inflow	March-July	160
Grande Ronde @ LaGrande	March-July	94
Umatilla @ Pendleton	March-Sept.	90
Deschutes @ Benham Falls	April-July	115
Willamette Mid. Fk. nr. Oakridge	April-July	117
Rogue at Raygold	April-July	118
Upper Klamath Lake net Inflow	March-July	137
Silvies nr. Burns	March-July	153

These forecasts assume normal weather conditions will occur throughout the forecast period. The thirty-day weather forecast issued by the National Weather Service on March 1 indicates normal precipitation and temperatures for most of Oregon.

The forecasts in this bulletin are a result of a coordinated activity between the Soil Conservation Service and the National Weather Service as an effort to provide the best possible service to the water user.

WATER SUPPLY OUTLOOK OWYHEE, MALHEUR WATERSHEDS OREGON

GENERAL OUTLOOK

Water supplies in Malheur County next summer will be excellent. Although stormy weather has prevented aerial flights to observe snowpack depths, limited ground surveys indicate a much above average snow cover on the Owyhee and Malheur drainages. Precipitation during February was almost $1\frac{1}{2}$ times average. All the major reservoirs are storing above normal amounts for March 1. Streamflow next spring and summer will be much above average.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	PERIOD	Last Year
Bully Creek at Warm Springs, near Vale	32	256	March-May	12.6b
Malheur River near Drewsey	155	167	March-July	92
	124	171	April-Sept.	73
Malheur River, No. Fork at Beulah	112	152	March-July	74
	95	142	April-Sept.	67
Owyhee Reservoir net Inflow	818	160	March-July	510
	683	174	April-Sept.	392
Owyhee River near Rome	877	160	March-July	548
Succor Creek near Jordan Valley	21	152	March-July	13.6b

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Owyhee near Rome	2000 1000 500	June 1 June 15 July 1	May 14 May 28 June 11

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average c
Beulah Reservoir	60.0	54.1	53.8	34.2
Bully Creek	30.0	23.1	21.9	15.8
Owyhee	715.0	666.2	683.5	516.8
Warm Springs	191.0	144.3	163.1	108.2

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average c
Bully Creek	2	206	157
Jordan Creek	3	108	142
Malheur River	4	105	147
Owyhee River	6	121	175

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

OREGON

GENERAL OUTLOOK

Water supplies will be near normal to above normal this summer. The streamflow forecast ranges from 94 percent of normal for the Grande Ronde to 146 percent for the Powder River. The snowpack is above average for the entire area except for the Grande Ronde watershed where it is 86% of average. February precipitation was very good (126%) while for the winter season it has only been 89 percent of normal. Since the streamflow has been so high, the reservoir storage is in good shape. They contain 111 percent of the March 1 normal.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Anthony Creek blw. North Fork nr. North Powder	21	127	March-July		16.5
Bear Creek near Wallowa	68	105	April-Sept.		65
Big Creek blw. Burn Creek nr. Medical Springs	14.5	126	March-July		11.5
Burnt River near Hereford	65	144	March-July		45
	50	139	April-Sept.		36
Catherine Creek near Union	68	106	April-Sept.		64
Deer Creek abv. Phillips Lake near Sumpter	24	139	March-July		17.3
Eagle Creek abv. Skull Creek near New Bridge	197	116	April-July		169
	214	116	April-Sept.		184
Grande Ronde River at La Grande	182	94	March-July		194
	151	94	April-Sept.		161
Hurricane Creek near Joseph	48	105	April-Sept.		46
Imnaha River at Imnaha	365	120	April-Sept.		305
Lostine River near Lostine	129	105	April-Sept.		123
Pine Creek near Oxbow	230	100	March-July		230
Powder River near Sumpter	80	140	April-July		57
	85	146	April-Sept.		58
Wallowa River, East Fork near Joseph	12.3	101	March-Sept.		12.2
	12.0	104	April-Sept.		11.5
Wallowa River at Joseph	72	104	March-July		69
Wolf Creek Reservoir net Inflow	16.6	126	March-June		13.2b

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Phillips Lake	73.5	59.7	54.7	50.1
Thief Valley	17.4	18.0	18.0	17.3
Unity	25.2	18.1	20.6	15.0
Wallowa Lake	37.5	24.8	23.4	22.5
Wolf Creek	10.4	5.5	3.2*	--
*2/20 reading				

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Burnt River	4	93	128
Grande Ronde River, above La Grande	3	70	86
Powder River	5	103	133
Wallowa, Imnaha, Catherine Creek	6	81	114

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Eagle Creek above Skull Creek	225 160	July 31 Aug. 10	July 25 Aug. 5
Catherine Creek near Union	51 100 50	Aug. 1 July 12 July 31	Ave. value 49 July 9 July 28
Powder near Sumpter	100 20	July 2 July 24	June 25 July 22
Deer Creek above Phillips reservoir near Sumpter	40 10	June 22 July 12	June 17 July 6

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

OREGON

GENERAL OUTLOOK

Water supplies will be near normal this summer. Because of high freezing levels, the mountain snowpack has deteriorated since last month. It ranges from 76 to 84 percent of normal. The February precipitation was 129 percent of normal but for the winter season it has only been 69 percent. Reservoir storage in the area is above the March 1 normal. The summer streamflow ranges from 85 percent of average to 100 percent.

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SCALE 1:1,500,000



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR		PAST RECORD	
	FORECAST		THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average	PERIOD	Last Year Average ^c
Butter Creek near Pine City	10.0	93	March-July	10.7
Couse Creek near Milton Freewater	5.0	89	March-July	5.6b
McKay Creek near Pilot Rock	18.7	85	April-Sept.	22
Pine Creek near Weston	4.0	90	March-July	4.4b
Rhea Creek near Heppner	5.8	92	March-July	6.2
Rock Creek above Cayuse Canyon near Condon	14.1	89	March-July	15.8b
Umatilla River above Meacham Cr. near Gibbon	89	90	March-Sept.	99
	70	90	April-Sept.	78
Umatilla River at Pendleton	184	90	March-Sept.	204
	135	90	April-Sept.	150
Walla Walla River, So. Fork near Milton	78	95	March-Sept.	82
	65	94	April-Sept.	69
Willow Creek at Heppner	6.8	100	March-July	6.8

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Umatilla at Pendleton	550	May 15	May 17
So. Fork Walla Walla near Milton	200	June 3	June 9
	102	Aug.-Sept. Min. flow	Ave. value 105

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Cold Springs	50.0	38.3	30.0	40.0
McKay	73.8	59.9	59.1	41.1

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
McKay Creek	3	65	76
Umatilla River	3	64	80
Walla Walla River	2	66	84

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

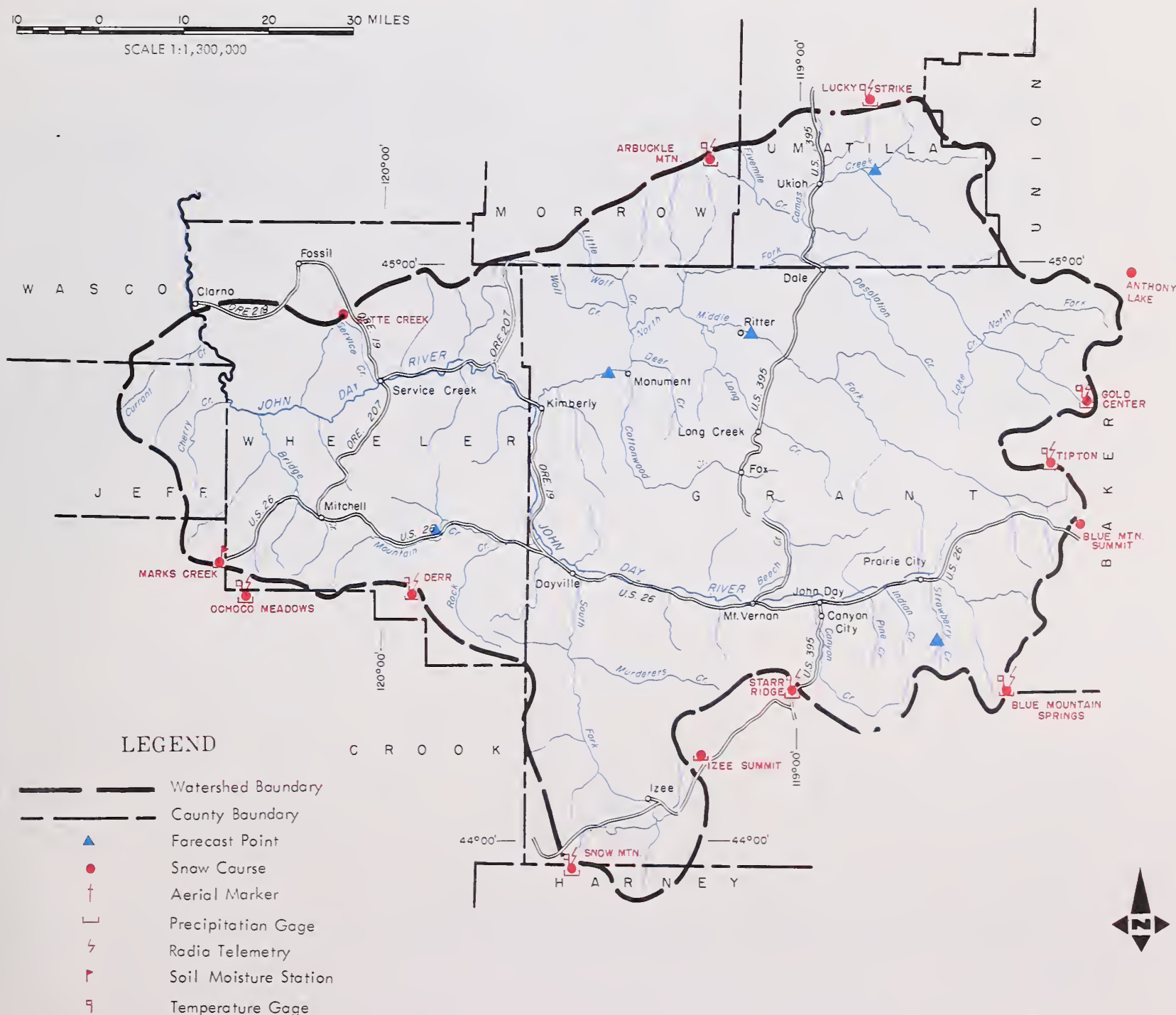
WATER SUPPLY OUTLOOK

UPPER JOHN DAY WATERSHEDS

OREGON

GENERAL OUTLOOK

Summer water supplies will be very good in the Upper John Day watershed. The snowpack has increased since last month. It is now at 119 to 135 percent of normal. February precipitation was excellent (188% of normal) while for the winter season it has been below normal (92%). The October-February streamflow has been very high at 162 percent of normal. The forecasted summer streamflow will be above average this year.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Camas Creek near Ukiah	48	114	March-July		42
	38	113	April-Sept.		34
John Day River, Middle Fork at Ritter	159	120	March-July		133
	135	119	April-Sept.		113
John Day River, No. Fork at Monument	690	108	March-July		639
	589	109	April-Sept.		541
Mountain Creek near Mitchell	6.2	155	March-July		4.0b
Strawberry Creek above Side Creek, near Prairie City	8.0	110	March-July		7.3
	8.4	110	April-Sept.		7.7

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
John Day at Service Creek	230	Aug. 1	Ave. value 212

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
John Day, North Fork	7	93	119
John Day, above Dayville	5	93	135

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

UPPER DESCHUTES, CROOKED WATERSHEDS

OREGON

GENERAL OUTLOOK

Water supplies will be very good this summer. Stored water supplies are already at 110 percent of the normal March 1 levels. Streamflow is forecast to be above normal on the Deschutes River and twice normal on the Crooked River. The mountain snowpack is better now than it was last month with the Deschutes being above normal and the Crooked being much above average. February precipitation was 268 percent of normal while it has been 116 percent for the winter season.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Beaver Creek near Paulina	33	208	April-July		16.0
	33	208	April-Sept.		16.1
Crane Prairie Reservoir total Inflow	130	115	April-Sept.		120
Crescent Cr. at Crescent Lake, near Crescent	27	131	March-July		20
	29	132	April-Sept.		22
Crooked River near Prineville	259	194	March-July		134
	192	214	April-Sept.		90
Crooked R., No. Fk. blw. Lookout Cr. nr. Paulina	26	197	March-July		13.2b
Deschutes River below Bend	183	110	Aug.-Sept.		166b
Deschutes River at Benham Falls, near Bend	423	115	April-July		368
	702	112	April-Sept.		627
Deschutes River blw. Snow Creek, near La Pine	79	115	March-Sept.		69
	72	115	April-Sept.		63
Deschutes River, Little near La Pine	124	140	March-July		89
	116	138	April-Sept.		84
Ochoco Reservoir net Inflow	56	232	March-July		24
	43	267	April-Sept.		16
Squaw Creek near Sisters	55	113	April-Sept.		49
Tumalo Creek near Bend	53	117	April-Sept.		45

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Crane Prairie net Inflow	430	Peak	
	263	Oct. 31	
	Peak	May 25	
Crooked R. near Post	100	June 15	June 1
Deschutes below Bend	1500	Aug. 1	July 1
Little Deschutes	400	June 11	June 7
near La Pine	200	July 13	July 8
Squaw Cr. near Sisters	100	Aug. 20	Aug. 16
Tumalo Cr. near Bend	235	July 10	June 23
	207	July 12	June 25
	150	July 27	July 5
	71	Aug. 15	Aug. 7

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Crane Prairie	55.3	45.6	31.7	46.1
Crescent Lake	86.9	67.6	31.9	63.5
Ochoco	47.5	38.9	40.6	28.8
Prineville	153.0	110.2	126.7	101.1
Wickiup	200.0	193.1	164.6	173.2

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Crooked, Ochoco	4	110	162
Deschutes abv. Wickiup	3	85	105
Little Deschutes	4	101	118
Tumalo & Squaw Creeks	3	88	120

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

OREGON

GENERAL OUTLOOK

Water supplies will be near normal this summer. Streamflow forecasts range from 93% to 106% of average. Stored water supplies are above the March 1 average. The snowpack has improved but is still below normal. February precipitation was 135 percent of normal while for the winter season it has been 101 percent.

10 0 10 20 MILES
SCALE 1:1,000,000



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Hood River at Tucker Bridge near Hood River	252 280	104 97	April-July April-Sept.		242 289
Hood River, West Fork near Dee	135 158	107 106	April-July April-Sept.		127 149
White River below Tygh Valley	104 120	92 93	April-July April-Sept.		114 129

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Clear Branch Inflow	*36	July 15-31	**39
*Average cfs forecast to flow for this two-week period.			
**Average cfs for period of record.			
White blw. Tygh Valley	200 126	July 3 Aug. 1	July 3 Ave.value 145

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Clear Lake (Wasco)	11.9	5.8	3.3	4.6

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Hood River	5	78	84
Mile Creeks	1	117	96
White River	3	74	82

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

LOWER COLUMBIA WATERSHEDS

OREGON

GENERAL OUTLOOK

Water Supplies will be near normal this year for the Columbia at The Dalles. The Snady River is forecast to be below normal this summer. The snowpack in the Columbia basin is near normal while the precipitation for February was 108% of normal. For the winter season it has been 93 percent.



SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Sandy River	3	73	83

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Columbia River at The Dalles	88,900 105,000	100 101	April-July April-Sept.		88,520 103,500
Sandy River near Marmot	276 325	84 85	April-July April-Sept.		329 384

HISTORICAL DATA (Columbia River at The Dalles)

YEAR	STREAMFLOW ^d (1,000 A.F.)			REGULATED PEAK (1,000 cfs)	DATE
	APR. - SEPT.	APR. - JUNE	MAY - JUNE		
1963	87,860	58,499	47,812	437	June 18
1964	110,422	73,512	63,670	662	June 18
1965	114,222	80,098	62,467	520	June 9
1966	87,386	58,250	45,962	396	June 12
1967	109,319	74,378	66,452	622	June 10
1968	89,102	55,593	47,994	404	June 13
1969	112,377	85,742	63,899	515	May 15
1970	88,243	62,993	55,227	425	May 28
1971	126,898	91,781	76,453	557	May 13
1972	135,500	97,041	81,451	619	June 20
1973	65,549	43,765	36,565	221	December 5
1974	139,501	99,035	78,946	588	June 20
1975	108,906	73,018	62,861	422	May 17
1976	122,771	79,084	62,554	418	May 14
1977	54,108	35,505	28,394	213	January 25
1963-77 Avg.	103,478	71,220	58,714	468	

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 cfs.)	DRAINAGE DISTRICT PUMPHOUSE						
		SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES						
		118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32 (1972)	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

WATER SUPPLY OUTLOOK

WILLAMETTE WATERSHEDS

OREGON

GENERAL OUTLOOK

Water supplies in the Willamette Valley are expected to be near average. Although the low and median elevation snow cover is deficient, there is a near normal accumulation at the high elevations along the Cascade crest. Winter precipitation has been 110% of average with February much wetter than normal. Streamflow next summer is expected to range from 85 to 95% of average.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Clackamas River at Estacada	560	83	April-July		672
	666	84	April-Sept.		786
Clackamas River above Three Lynx Creek	416	81	April-July		515
	505	83	April-Sept.		607
McKenzie River at McKenzie Bridge	389	86	April-July		452
	514	86	April-Sept.		598
McKenzie River near Vida	894	87	April-July		1,024
	1111	88	April-Sept.		1,259
McKenzie River, So. Fork above Cougar Lake, near Rainbow	174	85	April-July		207
	204	87	April-Sept.		234
Mohawk River near Springfield	117	100	March-July		117
Oak Grove Fork above Powerplant Intake	118	86	April-July		132
	153	88	April-Sept.		168
Row River above Pitcher Creek near Dorena	91	92	April-July		98
	96	92	April-Sept.		104
Santiam River, North at Mehama	668	89	April-July		752
	776	90	April-Sept.		860
Santiam River, South at Waterloo	503	92	April-July		547
	543	92	April-Sept.		590
Scoggins Cr. Abv. Henry Hagg Lake near Gaston	33	114	March-July		29
Thomas Creek near Scio	117	100	March-July		117
Willamette River, Coast Fork at London	27	100	April-July		27
Willamette, Middle Fork below No. Fork near Oakridge	786	117	April-July		678
	887	115	April-Sept.		776
Willamette, North Fork of Middle Fork near Oakridge	208	111	April-July		188
	238	114	April-Sept.		209
Willamette River at Salem	3976	94	April-July		4,213
	4540	96	April-Sept.		4,697

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Clackamas River	2	--	58
McKenzie River	3	43	53
Row River	2	91	69
Santiam River	4	61	68
Willamette, Mid. Fork	4	90	98

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Blue River	85.6*	30.8	35.0	27.8
Cottage Grove	30.0*	6.9	8.0	8.0
Cougar	155.2*	59.5	72.6	41.2
Detroit	299.9*	128.1	162.8	97.6
Dorena	70.5*	14.3	18.1	18.7
Fall Creek	115.0*	45.2	51.3	35.1
Fern Ridge	94.2*	45.1	44.8	35.5
Foster	30.0*	7.3	8.4	5.7b
Green Peter	270.0*	108.3	146.1	97.1
Hills Creek	200.0*	87.4	113.4	60.0
Lookout Point	337.2*	144.4	176.8	94.0
Timothy Lake	61.7	60.6	60.2	54.8
Henry Hagg Lake	53.0	49.8	47.4	--

*Multiple purpose reservoir--space reserved primarily for flood runoff.

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

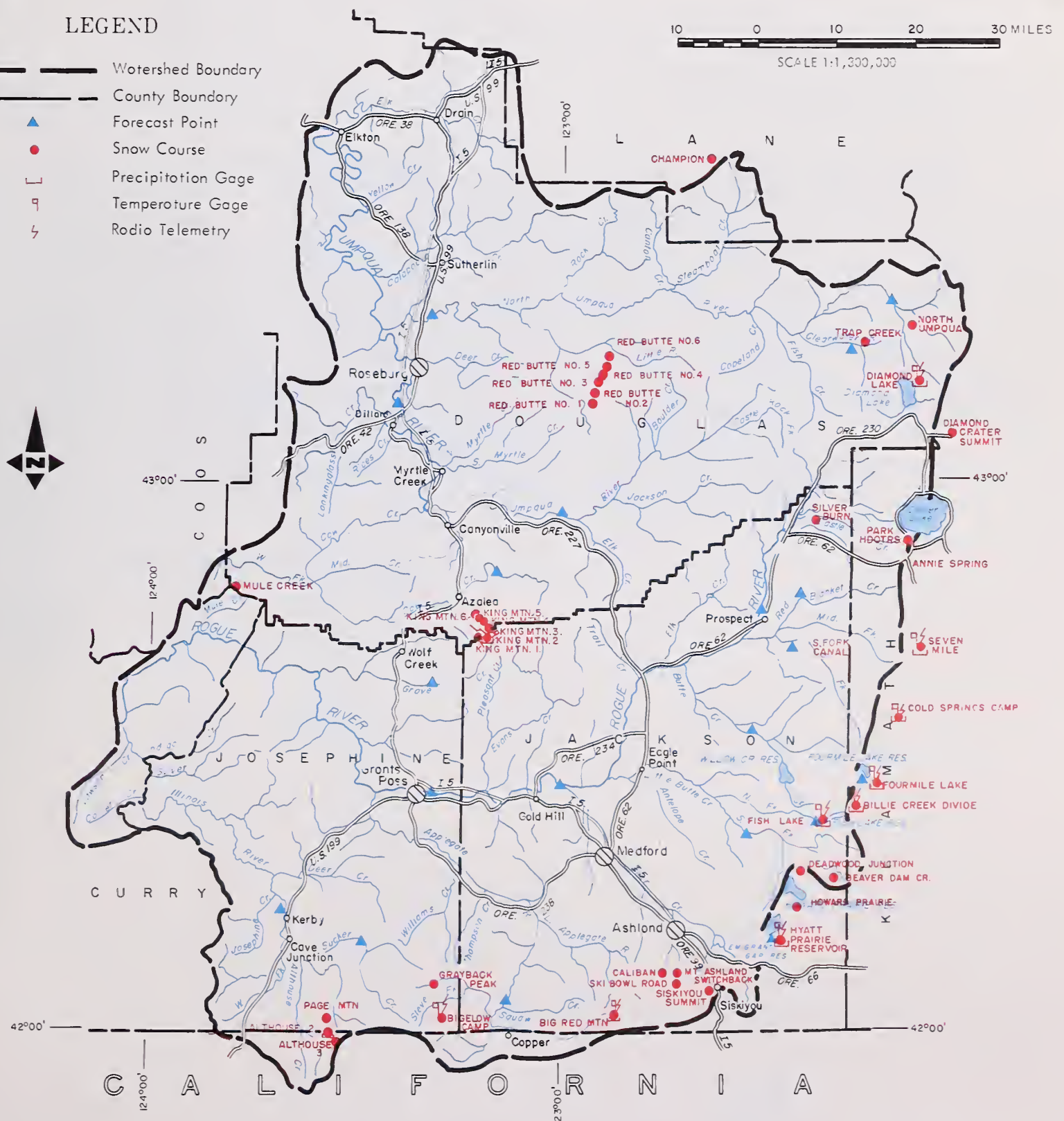
WATER SUPPLY OUTLOOK ROGUE, UMPQUA, WATERSHEDS OREGON

GENERAL OUTLOOK

Water supplies are expected to be above normal this spring and summer. Streamflow is forecast to be much above normal on the smaller streams and above normal on the larger ones. The Rogue River will be 118% and the Umpqua will be 98% of normal. The mountain snowpack is excellent throughout the area except on the Umpqua watershed where it is near average. February precipitation was 215% of normal and 111% for the winter season. Reservoir storage is above the March 1 average. February streamflow was more than twice the normal for the Umpqua and Rogue.

LEGEND

- Watershed Boundary
- County Boundary
- ▲ Forecast Point
- Snow Course
- ┌┐ Precipitation Gage
- 9 Temperature Gage
- ⚡ Radio Telemetry



STREAMFLOW FORECASTS

STREAMFLOW FORECASTS	THIS YEAR			PAST RECORD	
BASIN, STREAM and or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Applegate River near Copper	236	183	April-Sept.		129
Big Butte Cr., So. Fork near Butte Falls	42	114	April-July		37
Clearwater River abv.Trap Cr., nr.	74	104	April-Sept.		71
Cow Creek near Azalea	45	145	March-July		31
Fourmile Lake net Inflow	6.6	160	April-Sept.		3.9
Grave Creek at Pease Bridge near Placer	21	143	March-July		14.7
Hyatt Reservoir net Inflow	6.6	135	April-July		4.9
Illinois River near Kerby	210	119	April-July		176
	215	118	April-Sept.		183
Little Butte Cr. N.Fk. at Fish Lk. nr.Lakecreek	17.3	124	April-Sept.		14.0
Little Butte Creek, So. Fk. near Lakecreek	43	137	April-July		31
Red Blanket Creek near Prospect	42	118	April-July		35
Rogue River above Prospect	308	120	April-July		257
	377	120	April-Sept.		314
Rogue River, So. Fork near Prospect	71	115	April-July		62
	85	115	April-Sept.		74
Rogue River at Raygold near Central Point	892	118	April-July		756
	1,084	118	April-Sept.		919
Rogue River at Grants Pass	1,114	122	April-Sept.		913
Sucker Cr. blw. Little Grayback Cr. nr. Holland	102	175	April-July		58
Umpqua R.No. blw. Lemolo Lk., nr. Toketee Falls	174	102	April-Sept.		170
Umpqua River, No. at Winchester	751	98	April-July		768
Umpqua River, So. near Brockway	374	98	April-July		380
Umpqua River, So. at Tiller	194	106	April-July		183

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Cow Creek near Azalea	20	July 15	July 4
	10	Aug. 28	Aug. 19
Little Butte Creek, South Fork	100	May 30	May 15
South Umpqua near Brockway	90	Aug. 15	July 30
South Umpqua at Tiller	140	July 12	July 10
	90	Aug. 1	July 30
	60	Aug. 30	Aug. 27

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Applegate	75.2	25.1	42.8	--
Emigrant Lake	39.0	31.1	33.7	29.3
Fish Lake	8.0	6.3	4.1	6.0
Fourmile Lake	16.1	9.5	6.9	9.9
Howard Prairie	60.0	52.6	56.5	45.7
Hyatt Prairie	16.1	14.3	15.3	12.4
Lost Creek	315.0	238.3	254.0	--

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Applegate	2	276	212
Bear Creek	2	203	175
Butte Creek	4	180	152
Illinois River	3	369	162
North Umpqua	3	84	92
Rogue River	4	110	122
Mt. Ashland	4	183	183

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK KLAMATH WATERSHEDS OREGON

GENERAL OUTLOOK

Water supplies for Klamath County are forecast to be excellent this spring and summer. Streamflow should range from 131% to 183% of normal in the county. February precipitation was extremely heavy (270% of normal) while for the winter season it has been 125 percent. The snowpack is very good with about $1\frac{1}{2}$ times normal amounts. Reservoir storage is 118 percent of the March 1 average.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Clear Lake Reservoir Inflow	131	177	March-July		74
Gerber Reservoir Inflow	61	183	March-July		33
Sprague River near Chiloquin	402	148	March-July		272
	354	146	April-Sept.		242
Upper Klamath Lake net Inflow	866	137	March-July		632
	770	144	April-Sept.		526
Williamson River below Sprague River, near Chiloquin	535	131	April-Sept.		409

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Clear Lake	440.2	350.7	258.5	250.7
Gerber	94.0	77.6	87.1	55.9
Upper Klamath Lake	584.0	419.3	487.2	409.6

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Lost River	4	193	162
Sprague River	3	157	161
Upper Klamath	6	133	142
Williamson River	3	124	139

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

WATER SUPPLY OUTLOOK

LAKE COUNTY, GOOSE LAKE WATERSHEDS

OREGON

GENERAL OUTLOOK

Much above average water supplies should be available next spring and summer in Lake County. An unusually heavy snowpack exists in the mountains. It is close to the second highest on record. Winter precipitation has been about 105% of average with February being much wetter than normal at 175%. Streamflow during the spring and summer months is expected to range from 125% of average on Deep Creek to 195% of average on Silver Creek.



STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	THIS YEAR			PAST RECORD	
	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^c
Bridge Cr. at Sphar Ranch near Silver Lake	6.4	188	April-July		3.4
Chewaucan River near Paisley	131	148	March-July		88
Cotton Wood Creek near Lakeview	19.7	170	March-July		11.6
Deep Creek above Adel	100	125	March-July		80
Drews Reservoir net Inflow	78	188	March-July		41
Honey Creek near Plush	34	164	March-July		20
Silver Creek near Silver Lake	28	195	April-July		14.1
Twentymile Creek near Adel	46	174	March-July		26

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Deep Cr. above Adel	100	July 1	June 21
Honey Cr. near Plush	100	May 27	May 15
	50	June 14	May 30
Twentymile near Adel	50	June 24	June 2
	10	July 25	July 3

RESERVOIR STORAGE (Thousand Ac. Ft.) END OF MONTH

RESERVOIR	Usable Capacity	Usable Storage		
		This Year	Last Year	Average ^c
Cottonwood	8.7	5.0	8.7	3.5
Drews	63.0	56.0	63.5	42.5
Thompson Valley	19.5		--	15.3

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Chewaucan River	3	157	161
Deep Creek	4	172	142
Drew Creek	3	290	187
Honey Creek	3	241	174
Silver Creek	3	196	216
Twentymile Creek	3	401	234

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

Water supplies should be excellent this spring and summer. Streamflow forecasts range from 146% of average on Silvies River to 226% on Silver Creek. Mountain snowpack is very good with at least 1½ times the March 1 average. Harney County received 173% of normal February precipitation and 106% of the winter's normal.



STREAMFLOW FORECASTS

STREAMFLOW FORECASTS	THIS YEAR			PAST RECORD	
BASIN, STREAM and/or FORECAST POINT	FORECAST		FORECAST PERIOD	THOUSAND ACRE FEET	
	Thousand Acre Feet	Percent of Average		Last Year	Average ^C
Donner und Blitzen River near Frenchglen	98	167	March-July		59
	92	163	April-Sept.		57
Silver Creek near Riley	36	226	April-July		15.8
Silvies River near Burns	148	153	March-July		96
	113	146	April-Sept.		77
Trout Creek near Denio, Nevada	15.2	163	March-July		9.3
	13.8	157	April-Sept.		8.8

FORECAST DATE of LOW FLOW VALUES

FORECAST POINT	Low Flow Value Second/Ft.	Forecast Date Stream Will Recede to Low Flow Value	Average Date of Low Flow Value
Silvies near Burns	400 200 100 50	May 13 June 12 June 25 July 2	May 5 May 21 June 9 June 23
Donner und Blitzen	200 100	July 6 July 30	June 15 July 5
<hr/>			
Malheur Lake at Break in Cole Island Dike near Voltage	<u>GAGE HEIGHT</u>	<u>SURFACE ACRES</u>	<u>AVG. SURFACE ACRES</u>
July 1	4095.95	80,500	40,000
Aug. 1	4095.35	72,500	33,000

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average ^c
Donner und Blitzen R.	3	136	165
Silver Creek	3	134	149
Silvies River	4	95	146
Trout Creek	2	351	180

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
OWYHEE MALHEUR WATERSHEDS AREA 1					
Antelope Ridge (Ida.)	2/24	28	9.0	10.8	6.9
Battle Creek (Ida.) *	No Report			2.3	3.2
Bear Creek (Nev.)	No Report			23.0	17.9
Big Bend (Nev.)	2/23	37	10.7	11.2	7.5
Blue Mountain Springs	2/23	60	18.2	19.4	14.2
Blue Mtn. Spgs. Plw. (T)	2/23	--	21.2	--	--
Blue Mtn. Spgs. Plw. (S)	2/23	63	18.4	20.8	15.1b
Blue Mtn. Spgs. Plw. (M)	2/23	--	21.2	22.9	11.3b
Boulder Creek *	No Report			2.2	--
Buck Pature *	No Report			1.4	2.4
Buckskin, Lower (Nev.)	2/22	39	12.6	6.8	7.1
Buckskin, Upper (Nev.)	2/22	40	13.6	10.4	8.3
Bull Basin (Ida.) *	No Report			0.1	1.2
Bully Creek *	No Report			1.1	2.1
Call Meadows *	No Report			1.8	3.7
Columbia Basin (Nev.)	2/26	35	10.8	12.2	8.1b
Disaster Peak (Nev.)	2/22	51	20.6	13.4	11.6
Eldorado Pass	2/28	18	5.2	3.2	3.1
Fawn Creek (Nev.)	2/23	58	17.6	15.9	--
Fish Creek (Rev.)	3/2	85	29.0	28.2	21.0b
Fish Creek Pillow (T)	3/2	--	35.3	--	--
Fish Creek Pillow (S)	3/2	94	31.0	28.8	--
Fish Creek Pillow (M)	3/2	--	35.3	31.1	--
Flag Prairie *	No Report			4.0	4.6
Fox Creek (Nev.)	No Report			12.5	9.6b
Fry Canyon (Nev.)	2/23	35	10.6	9.8	5.9b
Gold Creek (Nev.)	2/23	23	6.8	5.9	4.9b
Government Corrals	No Report			12.3	--
Granite Peak (Nev.)	2/22	76	24.9	19.5	13.1
Hyde Pasture (Ida.) *	No Report			6.8	5.3
Jack Creek, Lower (Nev.)	2/23	23	7.8	1.9	--
Jack Creek, Upper (Nev.)	2/23	36	11.3	11.2	6.7
Jack Peak (Nev.)	2/23	80	27.3	29.9	--
Johnston Pond (Ida.) *	No Report			--	--
Lake Creek R.S.	2/23	43	13.4	12.6	9.0
Lake Creek R.S. Plw. (T)	2/23	--	16.9	17.4	--
Lake Creek R.S. Plw. (S)	2/23	48	14.6	15.2	--
Lake Creek R.S. Plw. (M)	2/23	--	17.3	16.4	--
Laurel Draw (Nev.)	2/23	36	11.2	9.1	7.4b
Lookout Butte *	No Report			0.0	0.2
Louse Canyon *	No Report			3.2	3.7
Martin Creek (Nev.)	2/22	51	17.8	8.6	8.4
Merritt Mountain (Nev.) *	2/26	26	7.8	3.4	6.9b
Midas (Nev.) *	2/28	38	11.0	0.0	2.2
Mud Flat (Ida.)	2/24	27	7.2	9.0	6.0b
Oregon Canyon *	No Report			1.1	4.4
Quinn Ridge (Nev.) *	No Report			0.1	1.6
Red Canyon (Ida.) *	No Report			8.0	6.6
Rock Springs	2/24	29	9.2	8.2	5.0
Rock Spgs. Plw. (T)	2/24	--	10.1	--	--
Rock Spgs. Plw. (S)	2/24	29	9.2	6.8	--
Rock Spgs. Plw. (M)	2/24	--	10.0	6.2	--
Rodeo Flat (Nev.)	2/23	37	12.4	8.2	4.8
76 Creek (Nev.) *	2/26	36	10.4	17.5	10.7
Silver City (Ida.) *	No Report			16.8	13.7
Silver City (Ida.)	2/26	53	18.4	14.4	12.6b
Silvies	3/2	55	22.0	11.8	9.8
Silvies Pillow (T)	No Report			--	--
Silvies Pillow (S)	3/2	80	34.0	16.8	--
Silvies Pillow (M)	No Report			--	19.3b
South Mountain #2 (Ida.)	2/26	54	18.9	15.4	11.6
South Mtn. #2 Plw. (T)	No Report			17.5	--
Stag Mountain (Nev.) *	2/26	25	8.5	8.0	5.4b
Stinking Water	2/28	12	3.8	0.3	2.4
Succor Creek (Ida.) *	No Report			5.3	5.6
Taylor Canyon (Nev.)	2/23	32	9.4	6.5	4.5
Toe Jam (Nev.) *	2/26	36	11.7	11.8	8.6b
Tremewan Ranch (Nev.) *	2/23	14	4.0	3.1	1.5
Trout Creek *	No Report			4.6	6.7
"V" Lake *	No Report			10.8	6.1
Vaught Ranch (Ida.) *	No Report			0.1	4.1b
War Eagle (Ida.) *	No Report			22.8	19.6b

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
BURNT, POWDER, PINE, IMNAHA GRANDE RONDE WATERSHEDS AREA 2					
Aneroid Lake #2	2/26	87	28.4	34.9	27.6
Aneroid Lake #2 Plw. (T)	2/26	--	25.1	--	--
Aneroid Lake #2 Plw. (S)	2/26	88	28.8	31.5	--
Aneroid Lake #2 Plw. (M)	No Report			--	--
Anthony Lake	3/1	71	24.3	27.6	22.7
Bald Mountain (OR) *	2/28	60	18.6	28.9	19.4
Beaver Reservoir (Rev.)	2/24	38	9.8	13.2	10.8
Beaver Res. Pillow (T)	2/24	--	8.6	11.3	--
Beaver Res. Pillow (S)	2/24	31	12.0	13.2	--
Beaver Res. Pillow (M)	2/24	--	8.8	--	--
Big Sheep *	2/24	84	27.7	29.3	22.6
Blue Mtn.Summit (DISC.82)			11.3a	12.9	7.9
Bourne	2/24	60	19.0	18.7	13.8
Bourne Pillow (T)	2/24	--	23.3	23.5	--
Bourne Pillow (S)	2/24	67	19.6	21.5	--
Bourne Pillow (M)	2/24	--	22.1	22.7	--
County Line (Rev.)	2/23	20	3.4	5.5	4.2
County Line Pillow (T)	2/23	--	4.4	6.4	--
County Line Pillow (S)	2/23	8	3.2	4.8	--
County Line Pillow (M)	2/23	--	2.8	5.7	--
Dooley Mountain (DISC.82)			10.0a	10.6	7.9
Eilertson Meadows	2/24	45	12.8	11.0	10.2
Eilertson Meadows Plw. (T)	2/24	--	12.7	11.3	--
Eilertson Meadows Plw. (S)	2/24	45	13.5	12.6	--
Eilertson Meadows Plw. (M)	2/24	--	11.9	10.7	--
Eldorado Pass	2/28	18	5.2	3.2	3.1
Gold Center	2/24	46	14.0	13.7	11.5
Gold Center Pillow (T)	2/24	--	13.8	12.1	--
Gold Center Pillow (S)	2/24	39	12.4	12.2	--
Gold Center Pillow (M)	2/24	--	12.6	11.4	--
Goodrich Lake (DISC.82)			39.6a	--	--
Little Alps	3/1	52	14.5	12.8	12.0
Little Antone (Alt.)	3/1	38	9.6	9.4	--
Lucky Strike	2/23	29	8.8	11.2	10.9
Lucky Strike Pillow (T)	2/23	--	13.0	12.7	--
Lucky Strike Pillow (S)	2/23	32	10.4	10.5	--
Lucky Strike Pillow (M)	2/23	--	11.1	12.7	9.7b
Mirror Lake *	2/24	168	55.4	69.1	58.3b
Moss Spring	2/24	58	17.8	28.6	20.2
Moss Spring Pillow (T)	2/26	--	23.2	--	--
Moss Spring Pillow (S)	2/24	66	20.0	29.8	--
Moss Spring Pillow (M)	2/24	--	21.9	26.6	--
Mt. Howard Pillow (T)	2/24	--	7.7	12.3	--
Mt. Howard Pillow (S)	2/24	45	15.0	18.8	--
Mt. Howard Pillow (M)	2/24	--	7.3	11.8	--
Schneider Meadow	2/24	101	35.2	34.8	26.7
Schneider Meadow Plw. (T)	2/24	--	27.4	30.4	--
Schneider Meadow Plw. (S)	No Report			34.0	--
Schneider Meadow Plw. (M)	2/24	--	25.6	28.7	--
Standley *	2/24	89	27.6	36.6	25.5
Taylor Green	2/24	61	21.6	22.4	14.6
Taylor Green Pillow (T)	2/24	--	25.3	26.8	--
Taylor Green Pillow (S)	2/24	69	24.0	27.8	--
Taylor Green Pillow (M)	2/24	--	24.6	25.4	--
Tipton	2/24	45	12.8	13.6	--
Tipton Pillow (T)	2/24	--	20.2	20.8	9.6
Tipton Pillow (S)	2/24	53	14.4	17.6	12.6b
Tipton Pillow (M)	2/24	--	19.0	19.3	--
TV Ridge *	2/24	62	20.5	25.5	15.4b
West Eagle Meadows *	2/24	98	35.3	37.0	--
Wolf Creek Pillow (T)	2/24	--	20.1	20.8	--
Wolf Creek Pillow (S)	2/24	62	19.0	18.0	--
Wolf Creek Pillow (M)	2/24	--	20.2	20.6	--

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW

SNOW	THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS AREA 3					
Arbuckle Mountain	2/23	35	11.3	10.0	9.0
Arbuckle Mountain Plw. (T)	2/23	--	29.9	27.3	--
Arbuckle Mountain Plw. (S)	2/23	70	21.5	20.9	--
Arbuckle Mountain Plw. (M)	2/23	--	29.5	27.6	20.0b
Blue Mountain Camp(DISC.82)			11.3a	18.4	13.6
Bowman Springs Plw. (T)	2/27	--	9.9	14.2	--
Bowman Springs Plw. (S)	2/27	27	7.9	11.6	--
Bowman Springs Plw. (M)	2/27	--	9.2	13.6	--
Butte Creek Summit	No Report			--	--
Emigrant Springs	2/23	6	2.7	7.2	5.0
Emigrant Springs Plw. (T)	2/23	--	2.9	10.5	--
Emigrant Springs Plw. (S)	2/23	7	3.1	9.2	--
Emigrant Springs Plw. (M)	2/23	--	2.6	9.4	--
High Ridge Pillow (T)	2/28	--	31.5	38.3	--
High Ridge Pillow (S)	2/28	72	24.7	36.1	29.4
High Ridge Pillow (M)	2/28	--	29.7	36.6	--
Lucky Strike	2/23	29	8.8	11.2	10.9
Lucky Strike Pillow (T)	2/23	--	13.0	12.7	--
Lucky Strike Pillow (S)	2/23	32	10.4	10.5	--
Lucky Strike Pillow (M)	2/23	--	11.1	12.7	9.7b
Madison Butte Pillow (T)	2/23	--	5.8	--	--
Madison Butte Pillow (S)	2/23	19	6.0	4.8	--
Madison Butte Pillow (M)	2/23	--	5.8	6.2	--
UPPER JOHN DAY WATERSHEDS AREA 4					
Anthony Lake	3/1	71	24.3	27.6	22.7
Arbuckle Mountain	2/23	35	11.3	10.8	9.0
Arbuckle Mountain Plw. (T)	2/23	--	29.9	27.3	--
Arbuckle Mountain Plw. (S)	2/23	70	21.5	20.9	--
Arbuckle Mountain Plw. (M)	2/23	--	29.5	27.6	20.0b
Blue Mountain Springs	2/23	60	18.2	19.4	14.2
Blue Mtn. Spgs. Plw. (T)	2/23	--	21.2	--	--
Blue Mtn. Spgs. Plw. (S)	2/23	63	18.4	20.8	15.1b
Blue Mtn. Spts. Plw. (M)	2/23	--	21.2	22.9	11.3b
Blue Mountain Sum.(DISC.82)			10.5a	12.9	7.9
Butte Creek Summit	No Report			--	--
Derr	2/23	41	17.4	10.5	8.3
Derr Pillow (T)	2/23	--	23.6	19.2	--
Derr Pillow (S)	2/23	60	19.8	18.0	--
Derr Pillow (M)	2/23	--	23.0	43.4	--
Gold Center	2/24	46	14.0	13.7	11.5
Gold Center Plw. (T)	2/24	--	13.8	12.1	--
Gold Center Plw. (S)	2/24	39	12.4	12.2	--
Gold Center Plw. (M)	2/24	--	12.6	11.4	--
Izee Summit (DISC. 82)			9.8a	11.0	6.8
Lucky Strike	2/23	29	8.8	11.2	10.9
Lucky Strike Pillow (T)	2/23	--	13.0	12.7	--
Lucky Strike Pillow (S)	2/23	32	10.4	10.5	--
Lucky Strike Pillow (M)	2/23	--	11.1	12.7	9.7b
Marks Creek	2/23	10	4.4	4.6	2.9
Ochoco Meadows	2/22	39	13.8	13.4	8.1
Ochoco Meadows Plw. (T)	2/22	--	14.8	--	--
Ochoco Meadows Plw. (S)	2/22	48	17.5	12.8	--
Ochoco Meadows Plw. (M)	2/22	--	14.4	--	--
Snow Mountain (DISC. 82)			19.6a	16.5	11.3
Snow Mountain Plw. (T)	2/24	--	17.7	--	--
Snow Mountain Plw. (S)	2/24	43	14.0	13.3	11.3b
Snow Mountain Plw. (M)	No Report			13.4	--
Starr Ridge	2/24	26	8.4	9.2	5.2
Starr Ridge Plw. (T)	2/24	--	10.1	7.8	--
Starr Ridge Plw. (S)	2/24	26	8.6	8.2	--
Starr Ridge Plw. (M)	2/24	--	10.9	8.3	--
Tipton	2/24	45	12.8	13.6	9.6
Tipton Pillow (T)	2/24	--	20.2	20.8	--
Tipton Pillow (S)	2/24	53	14.4	17.6	12.6b
Tipton Pillow (M)	2/24	--	19.0	19.3	--

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^C
UPPER DESCHUTES, CROOKED WATERSHEDS AREA 5					
Bald Peter	2/25	104	39.8	41.8	22.7
Beaver Creek #1	2/28	36	12.2	10.6	--
Beaver Creek #2	2/28	26	8.0	--	--
Caldwell Ranch (DISC. 82)			11.4a	--	--
Cascade Summit	2/24	69	26.1	32.0	24.9
Cascade Summit Plw. (T)	2/24	--	28.8	36.4	--
Cascade Summit Plw. (S)	2/24	80	32.3	36.8	--
Cascade Summit Plw. (M)	2/24	--	27.6	34.9	--
Chemult Alternate	3/2	45	16.2	11.6	10.5
Chemult Alt. Plw. (T)	3/2	--	12.9	11.0	--
Chemult Alt. Plw. (S)	3/2	42	15.5	10.5	--
Chemult Alt. Plw. (M)	3/2	--	12.1	10.6	--
Derr	2/23	41	17.4	10.5	8.3
Derr Pillow (T)	2/23	--	23.6	19.2	--
Derr Pillow (S)	2/23	60	19.8	18.0	--
Derr Pillow (M)	2/23	--	23.0	--	--
Hogg Pass	2/23	80	32.2	38.5	34.6
Hogg Pass Pillow (T)	2/23	--	28.7	43.9	--
Hogg Pass Pillow (S)	2/23	87	34.3	41.5	--
Hogg Pass Pillow (M)	2/23	--	27.9	43.4	--
Hungry Flat	3/1	0	0.0	2.7	4.9
Irish-Taylor Pillow (T)	2/25	--	31.4	--	--
Irish-Taylor Pillow (S)	2/25	89	32.0	37.5	34.5b
Irish-Taylor Pillow (M)	2/25	--	30.1	41.0	--
Lionshead *	2/28	55	20.9	23.4	--
Marks Creek	2/23	10	4.4	4.6	2.9
New Crescent Lake	2/24	46	16.2	15.5	12.1
New Crescent Lake Plw. (T)	2/24	--	14.2	13.7	--
New Crescent Lake Plw. (S)	2/24	44	15.3	14.4	--
New Crescent Lake Plw. (M)	2/24	--	13.4	13.9	--
New Dutchman Flat #2	2/28	128	48.4	60.7	43.8
Ochoco Meadows	2/22	39	13.8	13.4	--
Ochoco Meadows Plw. (T)	2/22	--	14.8	--	--
Ochoco Meadows Plw. (S)	2/22	48	17.5	12.8	--
Ochoco Meadows Plw. (M)	2/22	--	14.4	--	--
Racing Creek	2/25	52	17.6	18.6	12.3b
Snow Mountain (DISC. 82)			19.6a	16.5	11.3
Snow Mountain Plw. (T)	2/24	--	17.7	--	--
Snow Mountain Plw. (S)	2/24	43	14.0	13.3	11.3b
Snow Mountain Plw. (M)	No Report				
Summit Lake Pillow (T)	2/24	--	34.3	--	--
Summit Lake Pillow (S)	2/24	105	37.0	35.0	33.1
Summit Lake Pillow (M)	2/24	--	31.3	40.3	--
Tamarack (DISC. 82)			6.0a	6.5	4.6
Tangent	2/28	81	30.0	30.5	20.6
Three Creek Butte	2/28	25	8.7	12.3	9.4
Three Creek Meadows	2/28	44	17.4	18.0	15.2
Three Creek Mdw. Plw. (T)	2/28	--	19.2	23.7	--
Three Creek Mdw. Plw. (S)	2/28	61	22.0	22.2	--
Three Creek Mdw. Plw. (M)	2/28	--	18.0	22.1	--
Whitewater Meadow *	2/28	12	4.3	4.1	--

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
HOOD, MILE CREEKS LOWER DESCHUTES WATERSHEDS AREA 6					
Brooks Meadow	3/1	30	9.8	8.4	10.2
Clear Lake	2/28	--	11.3	8.7	9.2
Clear Lake Pillow (T)	2/28	16	6.3	14.3	--
Clear Lake Pillow (S)	2/28	--	14.8	--	--
Clear Lake Pillow (M)	2/28	35	13.3	14.5	--
Clear Lake Expt.	2/28	--	13.1	13.3	14.2
Greenpoint	2/26	35	14.8	10.0	15.0
Greenpoint Pillow (T)	2/24	--	21.1	13.8	--
Greenpoint Pillow (S)	2/24	42	16.0	11.0	--
Greenpoint Pillow (M)	2/24	--	18.4	12.2	--
Mt. Hood Test Site (T)	3/1	--	49.0	--	50.6b
Mt. Hood Test Site (S)	3/1	121	50.0	62.7	56.4b
Mt. Hood Test Site (M)	3/1	--	49.0	64.2	--
Mud Ridge Pillow (T)	2/28	--	20.7	35.0	--
Mud Ridge Pillow (S)	2/28	52	19.5	32.2	27.2
Mud Ridge Pillow (M)	2/28	--	24.9	--	--
Red Hill	2/28	70	28.3	38.3	33.4
Red Hill Pillow (T)	2/28	--	36.5	--	--
Red Hill Pillow (S)	2/28	66	26.5	41.5	--
Red Hill Pillow (M)	2/28	--	33.9	--	--
Switchback (DISC. 82)			12.8a	9.8	12.8
Tilly Jane (DISC. 82)			29.3a	44.1	36.4
LOWER COLUMBIA WATERSHED AREA 7					
Blazed Alder Pillow (T)	3/2	--	17.5	--	--
Blazed Alder Pillow (S)	3/2	37	14.6	27.4	--
Blazed Alder Pillow (M)	3/2	--	15.3	30.8	--
Mt. Hood Test Site (T)	3/1	--	49.0	--	50.6b
Mt. Hood Test Site (S)	3/1	121	50.0	62.7	56.4b
Mt. Hood Test Site (M)	3/1	--	49.0	64.2	--
Mud Ridge Pillow (T)	2/28	--	20.7	35.0	--
Mud Ridge Pillow (S)	2/28	52	19.5	32.2	27.2
Mud Ridge Pillow (M)	2/28	--	24.9	--	--
North Fork Res. (T)	3/2	--	4.6	9.9	--
North Fork Res. (S)	3/2	9	3.6	9.2	--
North Fork Res. (M)	3/2	--	3.6	9.1	--
WILLAMETTE WATERSHEDS AREA 8					
Cascade Summit	2/24	69	26.1	32.0	24.9
Cascade Summit Plw. (T)	2/24	--	28.8	36.4	--
Cascade Summit Plw. (S)	2/24	80	32.3	36.8	--
Cascade Summit Plw. (M)	2/24	--	27.6	34.9	--
Champion (DISC. 82)			19.5a	20.9	23.2
Clackamas Lake	2/28	15	5.0	10.2	11.3
Clackamas Lake Plw. (T)	2/28	--	10.7	--	--
Clackamas Lake Plw. (S)	2/28	28	9.0	17.5	--
Clackamas Lake Plw. (M)	2/28	--	11.3	--	--
Clear Lake	2/28	16	6.3	8.7	9.2
Clear Lake Plw. (T)	2/28	--	14.8	14.3	--
Clear Lake Plw. (S)	2/28	35	13.3	--	--
Clear Lake Plw. (M)	2/28	--	13.1	14.5	--
Clear Lake Expt.	2/28	32	12.4	13.3	14.2

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^c
WILLAMETTE WATERSHEDS (CONTINUED)					
Daly Lake Plw. (T)	3/1	--	2.3	--	--
Daly Lake Plw. (S)	No Report			10.5	--
Daly Lake Plw. (M)	No Report			11.2	--
Dead Horse Grade	3/1	0	0.0	11.1	14.4
Golden Curry Creek(DISC.82)			0.0a	0.6	4.8b
Hogg Pass	2/23	80	32.2	38.5	34.6
Hogg Pass Pillow (T)	2/23	--	28.7	43.9	--
Hogg Pass Pillow (S)	2/23	87	34.3	41.5	--
Hogg Pass Pillow (M)	2/23	--	27.9	43.4	--
Holland Meadows Plw. (T)	3/1	--	23.9	21.1	--
Holland Meadows Plw. (S)	No Report			20.2	--
Holland Meadows Plw. (M)	No Report			20.5	--
Jump Off Joe Pillow (T)	2/23	--	5.7	10.4	--
Jump Off Joe Pillow (S)	2/23	13	5.8	12.8	--
Jump Off Joe Pillow (M)	2/23	--	3.9	10.9	--
Little Meadows Plw. (T)	3/1	--	19.8	19.0	--
Little Meadows Plw. (S)	No Report			17.5	--
Little Meadows Plw. (M)	No Report			19.2	--
Lost Creek Ranch (DISC.82)			1.1a	6.0	3.8
Marion Forks	2/23	3	1.0	13.2	12.0
Marion Forks Pillow (T)	2/23	--	2.8	--	--
Marion Forks Pillow (S)	2/23	5	2.1	12.8	--
Marion Forks Pillow (M)	2/23	--	2.1	--	--
Marys Peak	3/1	TR	0.1	4.8	9.2b
McCredie Springs (DISC.82)			0.0a	0.0	0.4b
McKenzie	3/1	72	31.5	54.6	38.4
McKenzie Pillow (T)	3/1	--	27.5	45.0	--
McKenzie Pillow (S)	3/1	67	28.7	43.2	--
McKenzie Pillow (M)	3/1	--	27.5	42.7	--
Mt. Hood Test Site (T)	3/1	--	49.0	--	50.6b
Mt. Hood Test Site (S)	3/1	121	50.0	62.7	56.4b
Mt. Hood Test Site (M)	3/1	--	49.0	64.2	--
Peavine Ridge Pillow (T)	3/2	--	11.1	--	14.9
Peavine Ridge Pillow (S)	3/2	22	7.8	13.1	--
Peavine Ridge Pillow (M)	3/2	--	10.6	14.6	--
Railroad Overpass	2/24	0	0.0	0.8	2.0
Railroad Overpass Plw. (T)	2/24	--	0.0	0.1	--
Railroad Overpass Plw. (S)	2/24	0	0.0	0.0	--
Railroad Overpass Plw. (M)	2/24	--	0.0	--	--
Roaring River Plw. (T)	3/1	--	25.8	32.0	--
Roaring River Plw. (S)	No Report			28.8	--
Roaring River Plw. (M)	No Report			29.9	--
Saddle Mtn. Pillow (T)	3/1	--	0.6	4.0	--
Salt Creek Falls	2/24	22	8.5	12.0	13.4
Salt Creek Falls Plw. (T)	2/24	--	16.9	22.0	--
Salt Creek Falls Plw. (S)	2/24	42	16.8	21.2	--
Salt Creek Falls Plw. (M)	2/24	--	15.8	21.0	--
Santiam Junction	2/23	41	16.4	23.6	21.4
Santiam Junction Plw. (T)	2/23	--	17.2	27.3	--
Santiam Junction Plw. (S)	2/23	43	16.3	25.0	--
Santiam Junction Plw. (M)	2/23	--	17.3	27.6	--
Seine Creek Pillow (T)	3/1	--	0.8	--	--
Summit Lake Pillow (T)	2/24	--	34.3	--	--
Summit Lake Pillow (S)	2/24	105	37.0	35.0	33.1
Summit Lake Pillow (M)	2/24	--	31.2	40.3	--
Timothy Lake	2/24	24	8.3	13.3	12.4b
Weaver Creek (DISC. 82)			0.0a	0.5	0.7b
White Branch Slide(DISC.82)			0.0a	7.5	7.0
Whitewater Bridge(DISC.82)			0.0a	6.2	4.8

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. °C
ROGUE, UMPQUA WATERSHEDS AREA 9					
Althouse #2	2/25	26	6.6	0.6	7.5
Althouse #3	2/25	76	30.2	6.6	--
Annie Springs	2/23	134	49.6	47.6	37.2
Beaver Dam Creek	2/28	47	21.1	9.2	12.5
Bigelow Camp Plw. (T)	2/28	--	26.6	6.3	--
Bigelow Camp Plw. (S)	2/28	72	28.6	8.0	--
Bigelow Camp Plw. (M)	2/28	--	26.5	5.0	--
Big Red Mtn (DISC.83)	No Report			21.4	24.6
Big Red Mtn. Rev.	No Report			--	--
Big Red Mtn. Plw. (T)	3/1	--	44.4	22.1	--
Big Red Mtn. Plw. (S)	No Report			21.0	--
Big Red Mtn. Plw. (M)	No Report			20.3	--
Billie Creek Divide	2/28	67	25.5	19.3	18.6
Billie Cr. Div. Plw. (T)	2/28	--	25.8	21.5	--
Billie Cr. Div. Plw. (S)	2/28	70	26.9	20.5	--
Billie Cr. Div. Plw. (M)	2/28	--	24.5	20.0	--
Caliban (Alternate)	2/28	130	50.0	31.0	--
Champion (DISC. 82)			19.5a	20.9	23.3
Cold Spgs. Camp (DISC. 83)	No Report			35.0	29.4
Cold Springs Camp Rev.	No Report			--	--
Cold Spgs. Camp Plw. (T)	3/1	--	39.5	32.4	--
Cold Spgs. Camp Plw. (S)	No Report			28.2	--
Cold Spgs. Camp Plw. (M)	No Report			29.6	--
Deadwood Junction	2/28	25	10.6	3.2	8.6
Diamond-Crater Sum.(DISC.82)			37.1a	--	--
Diamond Lake	2/22	54	20.4	20.1	17.9
Diamond Lake Plw. (T)	No Report			12.3	--
Diamond Lake Plw. (S)	2/22	53	19.5	14.0	--
Diamond Lake Plw. (M)	No Report			11.7	--
Fish Lake	2/28	40	15.2	10.2	11.8b
Fish Lake Pillow (T)	2/28	--	14.8	10.2	--
Fish Lake Pillow (S)	2/28	37	13.8	11.5	--
Fish Lake Pillow (M)	2/28	--	14.0	9.7	--
Fourmile Lake	No Report			22.5	20.4b
Fourmile Lake Plw. (T)	3/1	--	33.5	30.5	--
Fourmile Lake Plw. (S)	No Report			32.7	--
Fourmile Lake Plw. (M)	No Report			28.3	--
Grayback Peak	No Report			13.2	20.5
Howard Prairie Reservoir	2/28	38	14.7	5.1	8.3
Hyatt Prairie Reservoir	2/28	33	14.4	3.7	7.3
Hyatt Prairie Res. Plw. (T)	2/28	--	16.8	6.1	--
Hyatt Prairie Res. Plw. (S)	No Report			--	--
Hyatt Prairie Res. Plw. (M)	2/28	--	16.7	5.5	--
King Mountain #1	2/28	26	10.1	1.2	7.6b
King Mountain #2	2/28	25	7.8	0.5	5.0b
King Mountain #2 Plw. (T)	2/28	--	5.4	0.6	--
King Mountain #2 Plw. (S)	2/28	23	7.1	0.5	--
King Mountain #2 Plw. (M)	2/28	--	5.1	0.4	--
King Mountain #3	2/28	0	0.0	0.0	1.4h
King Mountain #4	2/28	0	0.0	0.0	--
King Mountain #5	2/28	0	0.0	0.0	--
King Mountain #6	2/28	0	0.0	0.0	--
Mt. Ashland Switchback	2/28	139	50.5	28.7	29.9
Mule Creek	2/28	5	1.6	4.1	8.1b
North Umpqua	3/1	26	10.5	14.5	13.3
Page Mountain	2/25	4	1.0	0.1	3.6
Park Headquarters	2/23	172	65.1	62.6	50.7
Red Butte #1	2/24	23	8.5	9.8	11.9
Red Butte #2	2/24	18	6.3	4.7	7.8
Red Butte #3	2/24	0	0.0	0.2	4.6b
Red Butte #4	2/24	0	0.0	0.0	1.7
Red Butte #5	2/24	0	0.0	0.0	0.4
Red Butte #6	2/24	0	0.0	0.0	0.2
Seven Mile	2/23	104	37.9	33.2	28.0
Seven Mile Pillow (T)	2/23	--	36.4	35.9	--
Seven Mile Pillow (S)	2/23	99	35.8	31.8	--
Seven Mile Pillow (M)	2/23	--	33.1	33.8	--
Silver Burn	2/24	31	12.6	12.7	12.0
Siskiyou Summit	2/22	31	13.3	2.7	6.6
Ski Bowl Road	2/28	125	43.0	23.4	25.4b
South Fork Canal	2/28	0	0.0	0.1	2.0b
Trap Creek	2/28	22	8.7	12.8	11.6

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. °C
KLAMATH WATERSHEDS AREA 10					
Annie Springs	2/23	134	49.6	47.6	37.2
Billie Creek Divide	2/28	67	25.5	19.3	18.6
Billie Cr. Div. Plw. (T)	2/28	--	25.8	21.5	--
Billie Cr. Div. Plw. (S)	2/28	70	26.9	20.5	--
Billie Cr. Div. Plw. (M)	2/28	--	24.5	20.0	--
Chemult Alternate	3/2	45	16.2	11.6	10.5
Chemult Alternate Plw. (T)	3/2	--	12.9	11.0	--
Chemult Alternate Plw. (S)	3/2	42	15.5	10.5	--
Chemult Alternate Plw. (M)	3/2	--	12.1	10.6	--
Chiloquin (PP&L)	No Report			0.1	--
Cold Spgs. Camp (DISC. 83)	No Report			35.0	29.4
Cold Springs Camp Rev.	No Report			--	--
Cold Spgs. Camp Plw. (T)	3/1	--	39.5	32.4	--
Cold Spgs. Camp Plw. (S)	No Report			28.2	--
Cold Spgs. Camp Plw. (M)	No Report			29.6	--
Crazyman Flat *	3/2	34	12.2	7.8	8.0
Crowder Flat (Calif.) *	3/2	10	3.5	1.8	2.2
Crystal (PP&L)	2/28	20	11.0	0.0	8.4b
Diamond-Crater Sum.(DISC.82)			37.1a	--	--
Dog Hollow *	3/2	0	0.0	0.0	0.8
Finley Corrals *	3/2	73	23.4	16.0	14.0
Fort Klamath (PP&L)	2/28	11	5.0	0.1	3.5b
Fourmile Lake	No Report			22.5	20.4b
Fourmile Lake Plw. (T)	3/1	--	33.5	30.5	--
Fourmile Lake Plw. (S)	No Report			32.7	--
Fourmile Lake Plw. (M)	No Report			28.3	--
Gerber	3/1	9	3.6	0.0	2.3b
Harriman (PP&L)	2/28	19	11.0	0.1	4.3b
Howard Prairie Reservoir	2/28	38	14.7	5.1	8.3
Hyatt Prairie Reservoir	2/28	33	14.4	3.7	7.3
Hyatt Prairie Res. Plw. (T)	2/28	--	16.8	6.1	--
Hyatt Prairie Res. Plw. (S)	No Report			--	--
Hyatt Prairie Res. Plw. (M)	2/28	--	16.7	5.5	--
Park Headquarters	2/23	172	65.1	62.6	50.7
Quartz Mountain	2/24	29	10.6	2.5	5.3
Quartz Mtn. Pillow (T)	2/24	--	16.4	6.6	--
Quartz Mtn. Pillow (S)	2/24	36	12.2	5.1	--
Quartz Mtn. Pillow (M)	2/24	--	14.1	5.9	--
Seven Mile	2/23	104	37.9	33.2	28.0b
Seven Mile Pillow (T)	2/23	--	36.4	35.9	--
Seven Mile Pillow (S)	2/23	99	35.8	31.8	--
Seven Mile Pillow (M)	2/23	--	33.1	33.8	--
State Line (Calif.) *	3/2	32	10.6	4.2	7.1
Strawberry	2/23	40	13.0	5.1	5.9b
Strawberry Pillow (T)	2/23	--	15.7	3.6	--
Strawberry Pillow (S)	2/23	35	11.6	4.2	--
Strawberry Pillow (M)	No Report			3.5	--
Summer Rim *	3/2	--	18.6	15.2	12.0b
Summer Rim	2/28	60	20.7	17.1	14.0
Summer Rim Pillow (I)	2/28	--	25.1	--	--
Summer Rim Pillow (S)	2/28	66	21.0	18.5	16.1b
Summer Rim Pillow (M)	2/28	--	27.5	23.5	8.3b
Sycan Flat *	3/2	30	10.8	6.6	5.6
Taylor Butte	2/22	24	8.7	4.7	4.2
Taylor Butte Pillow (T)	2/22	--	7.2	5.7	--
Taylor Butte Pillow (S)	2/22	29	10.5	5.2	--
Taylor Butte Pillow (M)	2/22	--	6.9	3.6	--

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. ^C
LAKE COUNTY, GOOSE LAKE WATERSHEDS AREA 11					
Adin Mountain (Calif.)	2/28	56	18.8	8.8	10.5
Bald Mountain (Nev.)	3/2	24	8.6	0.6	2.7
Barley Camp *	3/2	64	20.5	13.3	--
Bear Flat Meadow *	3/2	62	19.8	6.0	8.0
Camas Creek #1	2/23	42	12.9	5.4	8.4
Camas Creek #2	2/23	51	16.6	7.1	--
Cedar Pass (Calif.)	2/25	49	17.7	12.7	12.9
Colvin Creek *	3/2	21	7.6	2.7	4.1b
Cox Flat *	3/2	34	12.2	1.8	6.8
Crowder Flat (Calif.)	3/2	10	3.5	1.8	2.2
Dismal Swamp (Calif.) *	3/2	85	27.2	18.9	--
Dismal Swamp #2 Plw. (T)	3/1	--	30.9	26.5	--
Dismal Swamp #2 Plw. (S)	2/24	79	31.6	28.6	--
Dismal Swamp #2 Plw. (M)				25.2	--
Finley Corrals *	3/2	73	23.4	16.0	14.0
Hart Mountain *	3/2	12	4.3	1.8	1.4
Little Bally Mtn. (Nev.)	3/2	25	9.0	0.9	2.6
Mtn. Bidwell (Calif.)	2/24	72	28.7	20.7	--
North Star (Calif.)	2/24	53	21.2	9.6	--
Patton Meadows *	3/2	69	22.1	14.4	14.5
Quartz Mountain	2/24	29	10.6	2.5	5.3
Quartz Mountain Plw. (T)	2/24	--	16.4	6.6	--
Quartz Mountain Plw. (S)	2/24	36	12.2	5.1	--
Quartz Mountain Plw. (M)	2/24	--	14.1	5.9	--
Reservation Creek (Calif.)	2/25	41	16.4	8.0	9.9
Rogger Meadows *	3/2	59	18.9	7.6	--
Sherman Valley *	3/2	60	19.2	8.4	10.3
Silver Creek	3/4	7	3.1	0.7	1.1
Silver Creek Plw. (T)	3/4	--	18.7	11.7	--
Silver Creek Plw. (S)	3/4	53	18.6	12.0	--
Silver Creek Plw. (M)	3/4	--	19.3	12.3	--
State Line (Calif.) *	3/2	32	10.6	4.2	7.1
Strawberry	2/23	40	13.0	5.1	5.9b
Strawberry Plw (T)	2/23	--	15.7	3.6	--
Strawberry Plw (S)	2/23	35	11.6	4.2	--
Strawberry Plw (M)	No Report			3.5	--
Summer Rim *	3/2	58	18.6	15.2	12.0b
Summer Rim	2/28	60	20.7	17.1	14.0
Summer Rim Plw. (T)	2/28	--	25.1	--	--
Summer Rim Plw. (S)	2/28	66	21.0	18.5	16.1b
Summer Rim Plw. (M)	2/28	--	27.5	23.5	8.3b
Sycan Flat *	3/2	30	10.8	6.6	5.6

SNOW

DRAINAGE BASIN and/or SNOW COURSE	THIS YEAR			PAST RECORD	
	Date of Survey	Snow Depth (In.)	Water Cont. (In.)	Water Content (Inches)	
				Last Yr.	Ave. C
HARNEY BASIN WATERSHEDS AREA 12					
Blue Mountain Springs	2/23	60	18.2	19.4	14.2
Blue Mtn. Spgs. Plw. (T)	2/23	--	21.2	--	--
Blue Mtn. Spgs. Plw. (S)	2/23	63	18.4	20.8	15.1b
Blue Mtn. Spgs. Plw. (M)	2/23	--	21.2	22.9	11.3b
Buck Pasture *	No Report			1.4	2.3
Buckskin Lake *	No Report			0.7	0.3b
Call Meadows *	No Report			1.8	3.7b
Delintment Lake (DISC.82)			19.2a	--	--
Disaster Peak (Nev.)	2/22	51	20.6	13.4	11.6
Emigrant Butte (DISC. 82)			4.0a	0.0	3.7
Fish Creek (Rev.)	3/2	85	29.0	28.2	21.0
Fish Creek Plw. (T)	3/2	--	35.3	--	--
Fish Creek Plw. (S)	3/2	94	31.0	28.8	--
Fish Creek Plw. (M)	3/2	--	35.3	31.1	--
Government Corrals	No Report			12.3	--
Hart Mountain *	3/2	12	4.3	1.8	1.4
Idlewild Camp Alt(DISC.82)			3.1a	0.0	4.6
Izee Summit (DISC. 82)			9.8a	11.0	6.8
Lake Creek R.S.	2/23	43	13.4	12.6	9.0
Lake Creek R.S. Plw. (T)	2/23	--	16.9	17.4	--
Lake Creek R.S. Plw. (S)	2/23	48	14.6	15.2	--
Lake Creek R.S. Plw. (M)	2/23	--	17.3	16.4	--
Oregon Canyon *	No Report			1.1	4.4
Pueblo Summit *	No Report			0.1	--
Rock Springs	2/24	29	9.2	8.2	5.0
Rock Springs Plw. (T)	2/24	--	10.1	--	--
Rock Springs Plw. (S)	2/24	29	9.2	6.8	--
Rock Springs Plw. (M)	2/24	--	10.0	6.2	--
Silvies	3/2	55	22.0	11.8	9.8
Silvies Pillow (T)	No Report			--	--
Silvies Pillow (S)	3/2	80	34.0	16.8	--
Silvies Pillow (M)	No Report			--	19.3b
Snow Mountain (DISC.82)			19.6a	16.5	11.3
Snow Mountain Plw. (T)	2/24	--	17.7	--	--
Snow Mountain Plw. (S)	2/24	43	14.0	13.3	11.3b
Snow Mountain Plw. (M)	No Report			13.4	--
Starr Ridge	2/24	26	8.4	9.2	5.2
Starr Ridge Pillow (T)	2/24	--	10.1	7.8	--
Starr Ridge Pillow (S)	2/24	26	8.6	8.2	--
Starr Ridge Pillow (M)	2/24	--	10.9	8.3	--
Stinking Water	2/28	12	3.8	0.3	2.4
Trout Creek *	No Report			4.6	6.7
"V" Lake *	No Report			10.8	6.1

* Aerial

TR = Trace

T = Telemetry Measurement

S = Snow Tube Measurement

M = Manometer Measurement

(DISC. ##) = Snow Course

manual measurement discontinued in year shown-estimates to be made for 5 years.

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average ^c
Arbuckle Mountain (Morrow County)	5400	From 1/25 To 2/26	5.88		
Beaver Reservoir (Union County)	5150	From 1/27 To 2/24	3.00		
Bigelow Camp (Josephine County)	5120	From 2/2 To 2/28	17.16		
Billie Creek Divide (Jackson County)	5310	From 2/3 To 2/28	6.96		
Blazed Alder (Clackamas County)	3650	From 12/28 To 3/2	38.04		
Blue Mountain Springs (Grant County)	5900	From 1/25 To 2/23	5.40		
Bourne (Baker County)	5800	From 1/18 To 2/24	6.36		
Bowman Springs (Union County)	4580	From 12/29 To 2/27	1.08		
Cascade Summit (Lane County)	4880	From 1/27 To 2/24	10.08		
Chemult (Klamath County)	4760	From 2/1 To 3/2	10.80		
Clackamas Lake (Clackamas County)	3400	From 10/1 To 2/28	22.20		
Clear Lake (Wasco County)	3500	From 12/30 To 2/28	18.48		
County Line (Umatilla County)	4800	From 1/25 To 2/23	2.16		
Derr (Wheeler County)	5670	From 1/25 To 2/23	5.52		
Diamond Lake (Douglas County)	4600	From 1/25 To 2/22	10.08		
Eilertson Meadows (Baker County)	5400	From 1/28 To 2/24	4.20		
Emigrant Springs (Umatilla County)	3925	From 12/29 To 2/23	0.60		
Fish Creek (Harney County)	7900	From 1/28 To 3/2	8.76		
Fish Lake (Jackson County)	4665	From 2/3 To 3/2	6.36		
Gold Center (Grant County)	5340	From 1/28 To 2/24	4.68		
Greenpoint (Hood River County)	3200	From 1/30 To 2/24	14.40		
High Ridge (Umatilla County)	4150	From 1/28 To 2/28	7.92		
Hogg Pass (Jefferson County)	4755	From 1/26 To 2/23	14.88		

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average ^c
Hyatt Prairie (Jackson County)	4900	From 1/31 To 2/28	6.00		
Irish-Taylor (Deschutes County)	5500	From 1/28 To 2/25	10.68		
Jump Off Joe (Linn County)	3400	From 1/26 To 2/23	14.64		
King Mountain #2 (Douglas County)	4500	From 1/26 To 2/28	19.80		
Lake Creek (Grant County)	5120	From 1/25 To 2/23	5.16		
Lucky Strike (Umatilla County)	5050	From 1/25 To 2/23	4.13		
Madison Butte (Morrow County)	5250	From 1/25 To 2/23	3.36		
Marion Forks (Linn County)	2730	From 1/26 To 2/23	15.48		
McKenzie (Lane County)	5000	From 1/28 To 3/1	13.44		
Moss Springs (Union County)	5850	From 1/28 To 2/24	5.88		
Mt. Hood Test Site (Clackamas County)	5400	From 1/27 To 3/1	14.76		
Mt. Howard (Walla Walla County)	7910	From 1/28 To 2/24	5.28		
Mud Ridge (Clackamas County)	4050	From 1/31 To 2/28	6.84		
New Crescent Lake (Klamath County)	4800	From 1/27 To 2/24	3.00		
North Fork Reservoir (Multnomah County)	3120	From 12/28 To 3/2	72.86		
Ochoco Meadows (Crook County)	5200	From 1/24 To 2/22	6.64		
Peavine Ridge (Clackamas County)	3500	From 10/1 To 3/2	33.00		
Quartz Mountain (Lake County)	6300	From 1/27 To 2/24	4.80		
Railroad Overpass (Lane County)	2750	From 1/27 To 2/24	5.76		
Rock Springs (Grant County)	5100	From 1/26 To 2/24	3.36		
Salt Creek Falls (Lane County)	4000	From 1/27 To 2/24	11.28		
Santiam Junction (Lane County)	3750	From 1/26 To 2/23	27.00		
Schneider Meadows (Baker County)	5400	From 1/28 To 2/24	3.48		

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

BASIC DATA SUPPLEMENT 2

PRECIPITATION (Inches)

DRAINAGE BASIN and PRECIPITATION GAGE LOCATION	ELEVATION	CURRENT INFORMATION		PAST RECORD	
		Date of Reading	Precipitation	Last Year	Average ^c
Seven Mile (Klamath County)	5725	From 10/1 To 2/23	45.60		
Silver Creek (Lake County)	5720	From 2/3 To 3/4	7.20		
Silvies (Harney County)	6900	From 10/1 To 3/2	37.68		
Snow Mountain (Harney County)	6220	From 1/27 To 2/24	4.19		
Starr Ridge (Grant County)	5156	From 1/25 To 2/24	4.08		
Strawberry (Lake County)	5760	From 1/25 To 2/23	5.64		
Summit Lake (Klamath County)	5600	From 1/27 To 2/24	12.24		
Taylor Butte (Klamath County)	5040	From 1/24 To 2/22	1.68		
Taylor Green (Baker County)	5740	From 1/28 To 2/24	6.24		
Three Creek Meadows (Deschutes County)	5650	From 1/31 To 2/28	7.80		
Tipton (Baker County)	5100	From 1/28 To 2/24	4.56		
Wolf Creek (Union County)	5720	From 1/28 To 2/24	4.08		

(a) Estimated. (b) 1963-77 adjusted average. (c) 1963-77, 15 year average. (d) Corrected to natural flow. (e) Not scheduled.

[illegible]

Map and Index to OREGON SNOW COURSES

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE

Idaho Cooperative Snow Surveys
Nevada Cooperative Snow Surveys
Oregon State University
Oregon Department of Water Resources
Soil and Water Conservation Districts of Oregon

COUNTY

Douglas County Water Resources Survey

FEDERAL

Department of Agriculture
Cooperative Extension Service
Forest Service
Soil Conservation Service
Department of Army
Corps of Engineers
Department of Commerce
NOAA, National Weather Service
Department of Energy
Bonneville Power Administration
Department of the Interior
Bureau of Land Management
Fish and Wildlife Service
Geological Survey
Bureau of Reclamation

PUBLIC UTILITIES

Pacific Power and Light Company
Portland General Electric Company
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MUNICIPALITIES

City of Baker
City of La Grande
City of Portland
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IRRIGATION DISTRICTS

Arnold Irrigation District
Associated Ditch Companies
Burnt River Irrigation District
Central Oregon Irrigation District
East Fork Irrigation District
Grants Pass Irrigation District
Hood River Irrigation District
Jordan Valley Irrigation District
Juniper Flat Irrigation District
Lakeview Water Users, Incorporated
Medford Irrigation District
Middle Fork Irrigation District
North Board of Control - Owyhee Project
Ochoco Irrigation District
Rogue River Valley Irrigation District
South Board of Control - Owyhee Project
Squaw Creek Irrigation District
Talent Irrigation District
Tumalo Project
Vale - Oregon Irrigation District
Warmsprings Irrigation District

PRIVATE ORGANIZATIONS

The Crag Rats, Hood River, Oregon

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
1220 S.W. THIRD AVE.
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